

Claims:

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- 1 1. A common power control signal embodied on a carrier
2 wave and transmitted from a base station to a plurality of
3 subscriber units in a code division multiple access wireless
4 communication system, the common power control signal causing
5 the subscriber units to manage their reverse link
6 transmissions on a plurality of reverse link common channels,
7 the power control signal comprising:
8 a plurality of power control bits, each power control
9 bit corresponding to a reverse link common channel of the
10 plurality of reverse link common channels and directing a
11 respective subscriber unit to adjust its reverse link
12 transmission power; and
13 a plurality of inhibit bits, each of the plurality of
14 inhibit bits corresponding to a reverse link common channel
15 of the plurality of reverse link common channels and
16 indicating whether a dedicated burst mode has been scheduled
17 for the reverse link common channel.
- 1 2. The common power control signal of claim 1, wherein
2 the group of power control bits corresponding to the reverse
3 link common channel is transmitted during a message capsule
4 portion of the reverse link common channel.

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1 3. The common power control signal of claim 1, wherein
2 an inhibit bit corresponding to a reverse link common channel
3 is transmitted during an idle time of the reverse link common
4 channel.

1 4. The common power control signal of claim 1, wherein
2 the plurality of reverse link common channels are offset from
3 one another.

1 5. The common power control signal of claim 1, wherein
2 the reverse link common channel comprises a reverse common
3 control channel.

1 6. A common power control signal embodied on a carrier
2 wave and transmitted from a base station to a plurality of
3 subscriber units in a code division multiple access wireless
4 communication system, the common power control signal causing
5 the subscriber units to manage their reverse link
6 transmissions on a plurality of reverse link common channels,
7 the power control signal comprising:

8 a first power control/inhibit bit stream that
9 corresponds to a first reverse link common channel; and

10 a second power control/inhibit bit stream that
11 corresponds to a second reverse link common channel, the
12 second power control/inhibit bit stream offset in relation to
13 the first power control/inhibit bit stream.

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5 a fourth power control/inhibit bit stream that
6 corresponds to a fourth reverse link common channel.

1 11. The common power control signal of claim 10,
2 wherein:

3 the second power control/inhibit bit stream is offset
4 from the first power control/inhibit bit stream by a fixed
5 offset;

6 the third power control/inhibit bit stream is offset
7 from the first power control/inhibit bit by a fixed offset;

8 and

9 the fourth control/inhibit bit stream is offset from the
10 first power control/inhibit bit by a fixed offset.

1 12. The common power control signal of claim 10,
2 wherein:

3 the second power control/inhibit bit stream is offset
4 from the first power control/inhibit bit stream by a pseudo-
5 random offset; and

6 the fourth power control/inhibit bit stream is offset
7 from the third power control/inhibit bit by a fixed offset.

1 13. The common power control signal of claim 10,
2 wherein:

3 the second power control/inhibit bit stream is offset
4 from the first power control/inhibit bit stream by a pseudo-
5 random offset; and

6 the fourth power control/inhibit bit stream is offset
7 from the third power control/inhibit bit by another pseudo-
8 random offset.

1 14. The common power control signal of claim 10,
2 wherein:

3 a starting bit position is pseudo-randomly selected from
4 a plurality of available bit positions; and

5 the first, second, third and fourth power
6 control/inhibit bit streams are pseudo-randomly positioned
7 based upon the starting bit position.

1 15. A common power control and quick paging channel
2 embodied on a forward link carrier wave of a Walsh channel in
3 a code division multiple access wireless communication system
4 and transmitted from a base station to a plurality of
5 subscriber units, the common power control forward link
6 channel comprising:

7 a common power control signal causing the subscriber
8 units to manage their reverse link transmissions on a
9 plurality of reverse link common channels, the common power
10 control signal mapped to a first portion of the Walsh
11 channel; and

12 a quick paging signal that sends pages to the plurality
13 of subscriber units, the quick paging signal mapped to a
14 second portion of the Walsh channel.

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1 16. The common power control and quick paging channel
 2 of claim 15, wherein:
 3 the common power control signal is mapped to an in phase
 4 portion of the Walsh channel; and
 5 the quick paging signal is mapped to a quadrature
 6 portion of the Walsh channel.

1 17. The common power control and quick paging channel
 2 of claim 15, wherein:
 3 the common power control signal is mapped to a
 4 quadrature portion of the Walsh channel; and
 5 the quick paging signal is mapped to an in phase portion
 6 of the Walsh channel.

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1 18. A base station that supports communications with a
2 plurality of subscriber units in a CDMA wireless
3 communication system, the base station comprising:

4 an antenna;

5 a radio frequency interface coupled to the antenna;

6 a spreader/despreader coupled to the radio frequency
7 interface;

8 a coder/decoder coupled to the spreader/despreader;

9 processing circuitry coupled to the coder/decoder;

10 memory coupled to the processing circuitry;

11 a base station controller interface coupled to the
12 processing circuitry; and

13 the base station supporting a power control channel
14 comprising:

15 a plurality of power control bits, each power
16 control bit corresponding to a reverse link common
17 channel of the plurality of reverse link common channels
18 and directing a respective subscriber unit to adjust its
19 reverse link transmission power; and

20 a plurality of inhibit bits, each of the plurality
21 of inhibit bits corresponding to a reverse link common
22 channel of the plurality of reverse link common channels
23 and indicating whether a dedicated burst mode has been
24 scheduled for the reverse link common channel.

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1 19. The base station of claim 18, wherein the plurality
2 of power control bits are transmitted by the base station
3 during a message capsule or preamble portion of the reverse
4 link common channel.

1 20. The base station of claim 18, wherein the inhibit
2 bit corresponding to the reverse link common channel are
3 transmitted during an idle time of the reverse link common
4 channel.

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21. A base station that supports communications with a plurality of subscriber units in a CDMA wireless communication system, the base station comprising:

an antenna;

a radio frequency interface coupled to the antenna;

a spreader/despreader coupled to the radio frequency interface;

a coder/decoder coupled to the spreader/despreader;

processing circuitry coupled to the coder/decoder;

memory coupled to the processing circuitry;

a base station controller interface coupled to the processing circuitry; and

the base station supporting a power control channel
comprising:

a first power control/inhibit bit stream that corresponds to a first reverse link common channel; and

a second power control/inhibit bit stream that corresponds to a second reverse link common channel, the second power control/inhibit bit stream offset in relation to the first power control/inhibit bit stream

22. The base station of claim 21, wherein the second power control/inhibit bit stream is offset from the first power control/inhibit bit stream by a fixed offset.

1 23. The base station of claim 21, wherein the second
2 power control/inhibit bit stream is offset from the first
3 power control/inhibit bit stream by a pseudo-random offset.

1 24. The base station of claim 21, wherein the second
2 power control/inhibit bit stream is offset from the first
3 power control/inhibit bit stream by a varying offset that is
4 based upon a counter value.

1 25. The base station of claim 21, wherein the power
2 control signal further comprises:

3 a third power control/inhibit bit stream that
4 corresponds to a third reverse link common channel; and

5 a fourth power control/inhibit bit stream that
6 corresponds to a fourth reverse link common channel.

1 26. The base station of claim 25, wherein:
2 the second power control/inhibit bit stream is offset
3 from the first power control/inhibit bit stream by a fixed
4 offset;

5 the third power control/inhibit bit stream is offset
6 from the first power control/inhibit bit by a fixed offset;
7 and

8 the fourth control/inhibit bit stream is offset from the
9 first power control/inhibit bit by a fixed offset.

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1 27. The base station of claim 25, wherein:
2 the second power control/inhibit bit stream is offset
3 from the first power control/inhibit bit stream by a pseudo-
4 random offset; and
5 the fourth power control/inhibit bit stream is offset
6 from the third power control/inhibit bit by a fixed offset.

1 28. The base station of claim 25, wherein:
2 the second power control/inhibit bit stream is offset
3 from the first power control/inhibit bit stream by a pseudo-
4 random offset; and
5 the fourth power control/inhibit bit stream is offset
6 from the third power control/inhibit bit by another pseudo-
7 random offset.

1 29. The base station of claim 25, wherein:
2 a starting bit position is pseudo-randomly selected from
3 a plurality of available bit positions; and
4 the first, second, third and fourth power
5 control/inhibit bit streams are pseudo-randomly positioned
6 based upon the starting bit position.

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1 30. A base station that supports communications with a
2 plurality of subscriber units in a CDMA wireless
3 communication system, the base station comprising:

4 an antenna;

5 a radio frequency interface coupled to the antenna;

6 a spreader/despreader coupled to the radio frequency
7 interface;

8 a coder/decoder coupled to the spreader/despreader;

9 processing circuitry coupled to the coder/decoder;

10 memory coupled to the processing circuitry;

11 a base station controller interface coupled to the
12 processing circuitry; and

13 the base station supporting a power control channel
14 comprising:

15 a common power control signal causing the
16 subscriber units to manage their reverse link
17 transmissions on a plurality of reverse link common
18 channels, the common power control signal mapped to a
19 first portion of the Walsh channel; and

20 a quick paging signal that sends pages to the
21 plurality of subscriber units, the quick paging signal
22 mapped to a second portion of the Walsh channel.

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1 31. The base station of claim 30, wherein:
2 the common power control signal is mapped to an in phase
3 portion of the Walsh channel; and
4 the quick paging signal is mapped to a quadrature
5 portion of the Walsh channel.

1 32. The base station of claim 30, wherein:
2 the common power control signal is mapped to a
3 quadrature portion of the Walsh channel; and
4 the quick paging signal is mapped to an in phase portion
5 of the Walsh channel.

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1 33. A subscriber unit that supports communications with
2 a base station in a CDMA wireless communication system, the
3 subscriber unit comprising:

4 an antenna;

5 a radio frequency interface coupled to the antenna;

6 a spreader/despreader coupled to the radio frequency
7 interface;

8 a coder/decoder coupled to the spreader/despreader;

9 processing circuitry coupled to the coder/decoder;

10 memory coupled to the processing circuitry;

11 a user interface coupled to the processing circuitry;

12 and

13 the subscriber unit decoding and processing a power
14 control signal to extract a power control bit and an inhibit
15 bit corresponding to a common channel that comprises:

16 a plurality of power control bits, each power
17 control bit corresponding to a reverse link common
18 channel of the plurality of reverse link common channels
19 and directing a respective subscriber unit to adjust its
20 reverse link transmission power; and

21 a plurality of inhibit bits, each of the plurality
22 of inhibit bits corresponding to a reverse link common
23 channel of the plurality of reverse link common channels
24 and indicating whether a dedicated burst mode has been
25 scheduled for the reverse link common channel.

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1 34. A subscriber unit that supports communications with
2 a base station in a CDMA wireless communication system, the
3 subscriber unit comprising:

4 an antenna;
5 a radio frequency interface coupled to the antenna;
6 a spreader/despreader coupled to the radio frequency
7 interface;
8 a coder/decoder coupled to the spreader/despreader;
9 processing circuitry coupled to the coder/decoder;
10 memory coupled to the processing circuitry;
11 a user interface coupled to the processing circuitry;

12 and

13 the subscriber unit decoding and processing a power
14 control signal to extract a first power control/inhibit bit
15 stream that corresponds to a first reverse link common
16 channel, the power control signal comprising:

17 a first power control/inhibit bit stream that
18 corresponds to a first reverse link common channel; and

19 a second power control/inhibit bit stream that
20 corresponds to a second reverse link common channel, the
21 second power control/inhibit bit stream offset in
22 relation to the first power control/inhibit bit stream.

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1 35. The subscriber unit of claim 34, wherein the second
2 power control/inhibit bit stream is offset from the first
3 power control/inhibit bit stream by a fixed offset.

1 36. The subscriber unit of claim 34, wherein the second
2 power control/inhibit bit stream is offset from the first
3 power control/inhibit bit stream by a pseudo-random offset.

1 37. The subscriber unit of claim 34, wherein the second
2 power control/inhibit bit stream is offset from the first
3 power control/inhibit bit stream by a varying offset that is
4 based upon a counter value.

1 38. The subscriber unit of claim 34, wherein the power
2 control signal further comprises:

3 a third power control/inhibit bit stream that
4 corresponds to a third reverse link common channel; and

5 a fourth power control/inhibit bit stream that
6 corresponds to a fourth reverse link common channel.

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1 39. The subscriber unit of claim 38, wherein:
2 the second power control/inhibit bit stream is offset
3 from the first power control/inhibit bit stream by a fixed
4 offset;
5 the third power control/inhibit bit stream is offset
6 from the first power control/inhibit bit by a fixed offset;
7 and
8 the fourth control/inhibit bit stream is offset from the
9 first power control/inhibit bit by a fixed offset.

1 40. The subscriber unit of claim 38, wherein:
2 the second power control/inhibit bit stream is offset
3 from the first power control/inhibit bit stream by a pseudo-
4 random offset; and
5 the fourth power control/inhibit bit stream is offset
6 from the third power control/inhibit bit by a fixed offset.

1 41. The subscriber unit of claim 38, wherein:
2 the second power control/inhibit bit stream is offset
3 from the first power control/inhibit bit stream by a pseudo-
4 random offset; and
5 the fourth power control/inhibit bit stream is offset
6 from the third power control/inhibit bit by another pseudo-
7 random offset.

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1 42. The subscriber unit of claim 38, wherein:
2 a starting bit position is pseudo-randomly selected from
3 a plurality of available bit positions; and
4 the first, second, third and fourth power
5 control/inhibit bit streams are pseudo-randomly positioned
6 based upon the starting bit position.

1 43. A subscriber unit that supports communications with
2 a base station in a CDMA wireless communication system, the
3 subscriber unit comprising:

4 an antenna;
5 a radio frequency interface coupled to the antenna;
6 a spreader/despreader coupled to the radio frequency
7 interface;
8 a coder/decoder coupled to the spreader/despreader;
9 processing circuitry coupled to the coder/decoder;
10 memory coupled to the processing circuitry;
11 a user interface coupled to the processing circuitry;

12 and

13 the subscriber unit decoding and processing a power
14 control channel comprising:

15 a common power control signal mapped to a first
16 portion of a Walsh channel; and
17 a quick paging signal that is mapped to a second
18 portion of the Walsh channel.

1 44. The subscriber unit of claim 43, wherein:
2 the common power control signal is mapped to an in phase
3 portion of the Walsh channel; and
4 the quick paging signal is mapped to a quadrature
5 portion of the Walsh channel.

1 45. The subscriber unit of claim 43, wherein:
2 the common power control signal is mapped to a
3 quadrature portion of the Walsh channel; and
4 the quick paging signal is mapped to an in phase portion
5 of the Walsh channel.

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1 46. A method for transmitting power control bits from a
2 base station to a plurality of subscriber units in a code
3 division multiple access wireless communication system, the
4 common power control bits causing the subscriber units to
5 manage their reverse link transmissions on a plurality of
6 reverse link common channels, the method comprising:

7 determining a plurality of power control bits, each
8 power control bit corresponding to a reverse link common
9 channel of the plurality of reverse link common channels and
10 directing a respective subscriber unit to adjust its reverse
11 link transmission power;

12 determining a plurality of inhibit bits, each of the
13 plurality of inhibit bits corresponding to a reverse link
14 common channel of the plurality of reverse link common
15 channels and indicating whether a dedicated burst mode has
16 been scheduled for the reverse link common channel;

17 assembling the plurality of power control bits and the
18 plurality of inhibit bits into a common bit stream; and

19 transmitting the common bit stream to the plurality of
20 subscriber units.

1 47. The method of claim 46, wherein power control bits
2 corresponding to a reverse link common channel are
3 transmitted during a message capsule portion of the reverse
4 link common channel.

1 48. The method of claim 46, wherein an inhibit bit
2 corresponding to a reverse link common channel is transmitted
3 during an idle time of the reverse link common channel.

1 49. A method for transmitting power control bits from a
2 base station to a plurality of subscriber units in a code
3 division multiple access wireless communication system, the
4 common power control bits causing the subscriber units to
5 manage their reverse link transmissions on a plurality of
6 reverse link common channels, the method comprising:

7 determining a first power control/inhibit bit stream
8 that corresponds to a first reverse link common channel;

9 determining a second power control/inhibit bit stream
10 that corresponds to a second reverse link common channel;

11 combining the first power control/inhibit bit stream
12 with the second power control/inhibit bit stream into a
13 common bit stream such that the second power control/inhibit
14 bit stream is offset in relation to the first power
15 control/inhibit bit stream; and

16 transmitting the combined bit stream on a forward link
17 channel.

1 50. The method of claim 49, wherein the second power
2 control/inhibit bit stream is offset from the first power
3 control/inhibit bit stream by a fixed offset.

1 51. The method of claim 49, wherein the second power
2 control/inhibit bit stream is offset from the first power
3 control/inhibit bit stream by a pseudo-random offset.

1 52. The method of claim 49, wherein the second power
2 control/inhibit bit stream is offset from the first power
3 control/inhibit bit stream by a varying offset that is based
4 upon a counter value.

1 53. The method of claim 49, further comprising:
2 determining a third power control/inhibit bit stream
3 that corresponds to a third reverse link common channel; and
4 determining a fourth power control/inhibit bit stream
5 that corresponds to a fourth reverse link common channel.

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1 54. The method of claim 53, wherein:
2 the second power control/inhibit bit stream is offset
3 from the first power control/inhibit bit stream by a fixed
4 offset;
5 the third power control/inhibit bit stream is offset
6 from the first power control/inhibit bit by a fixed offset;
7 and
8 the fourth control/inhibit bit stream is offset from the
9 first power control/inhibit bit by a fixed offset.

1 55. The method of claim 53, wherein:
2 the second power control/inhibit bit stream is offset
3 from the first power control/inhibit bit stream by a pseudo-
4 random offset; and
5 the fourth power control/inhibit bit stream is offset
6 from the third power control/inhibit bit by a fixed offset.

1 56. The method of claim 53, wherein:
2 the second power control/inhibit bit stream is offset
3 from the first power control/inhibit bit stream by a pseudo-
4 random offset; and
5 the fourth power control/inhibit bit stream is offset
6 from the third power control/inhibit bit by another pseudo-
7 random offset.

1 57. The method of claim 53, wherein:
2 a starting bit position is pseudo-randomly selected from
3 a plurality of available bit positions; and
4 the first, second, third and fourth power
5 control/inhibit bit streams are pseudo-randomly positioned
6 based upon the starting bit position.

1 58. A method for transmitting a common power control
2 signal and a quick paging signal from a base station to a
3 plurality of subscriber units in a code division multiple
4 access wireless communication system, the method comprising:
5 mapping the common power control signal to a first
6 portion of a forward link Walsh channel; and
7 mapping the quick paging signal to a second portion of
8 the Walsh channel.

1 59. The method of claim 58, wherein:
2 the common power control signal is mapped to an in phase
3 portion of the Walsh channel; and
4 the quick paging signal is mapped to a quadrature
5 portion of the Walsh channel.

1 60. The method of claim 58, wherein:
2 the common power control signal is mapped to a
3 quadrature portion of the Walsh channel; and
4 the quick paging signal is mapped to an in phase portion
5 of the Walsh channel.